

6KD6

Beam Power Tube

Duodecar Type

For Low B+ Horizontal-Deflection-Amplifier Circuits of Color-TV Receivers

ELECTRICAL CHARACTERISTICS – Bogey Values

Heater Voltage, ac or dc.	E_h	6.3	V
Heater Current	I_h	2.85	A
Direct Interelectrode			
Capacitances (approx.): ^a			
Grid No.1 to plate	c_{g1-p}	0.8	pF
Input: G1 to (K, G3, G2, H).	c_i	40	pF
Output: P to (K, G3, G2, H).	c_o	16	pF

For the following characteristics, see Conditions below:

Amplification Factor

(Triode Connection) ^b	μ	—	—	—	4 ^c	
Plate Resistance (approx.)	r_p	—	—	—	6000	Ω
Transconductance	g_m	—	—	—	14000	μmho
DC Plate Current	I_b	—	1100 ^d	780 ^d	100	mA
DC Grid-No.2 Current.	I_{c2}	—	110 ^d	44 ^d	2	mA
Cutoff DC Grid-No.1 Volt-						
age for $I_b = 1 \text{ mA}$	$E_{c1(co)}$	-125	—	—	-40	V

Conditions:

Heater Voltage	E_h	← 6.3 →	V
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Peak Positive-Pulse

Plate Voltage ^e	e_{bm}	5000	—	—	—	V
DC Plate Voltage	E_b	—	45	60	150	V
DC Grid-No.3 Voltage	Connected to cathode at socket					
DC Grid-No.2 Voltage	E_{c2}	110	160	110	110	V
DC Grid-No.1 Voltage	E_{c1}	—	0	0	-22.5	V

MECHANICAL CHARACTERISTICS

Maximum Overall Length.	4.625 in (117.47 mm)
Maximum Seated Length	4.250 in (107.95 mm)
Maximum Diameter.	1.563 in (39.7 mm)
Dimensional Outline	JEDEC 12-118
Envelope.	JEDEC T12
Top Cap ^f	Small (JEDEC C1-1)
Base	Large-Button Duodecar 12-Pin (JEDEC E12-74)

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Terminal Diagram JEDEC 12GW

Type of Cathode Coated Unipotential

Operating Position Any

MAXIMUM RATINGS – Design-Maximum Values^g

*For operation as a Horizontal-Deflection-Amplifier Tube
in a 525-line, 30-frame system*

DC Plate Supply Voltage E_{bb} 990 V

Peak Positive-Pulse Plate Voltage^h e_{bm} 7000^k V

DC Grid-No.3 Voltage^m E_{c3} 20 V

DC Grid-No.2 (Screen-Grid) Voltage E_{c2} 200 V

Peak Negative-Pulse Grid-No.1

(Control-Grid) Voltage $-e_{c1m}$ 250 V

Heater-Cathode Voltage:

Peak e_{hkm} ± 200 V

Averageⁿ E_{hk} 100 V

Heater Voltage, ac or dc E_h 5.7 to 6.9 V

Cathode Current:

Peak i_{km} 1400 mA

Averageⁿ $I_{k(av)}$ 400 mA

Grid-No.2 Input P_{g2} 5.0 W

Plate Dissipation^p P_b 33 W

Envelope Temperature T_E 225^q °C

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance R_{g1} 2.2 M Ω

Grid-No.3-Circuit Resistance R_{g3} 0.01 M Ω

^a Measured without external shield in accordance with the current issue of EIA Standard RS-191.

^b With grid No.3 and grid No.2 connected, respectively, to cathode and plate at socket.

^c Conditions: $E_b = E_{c2} = 150$ V, $E_{c1} = -22.5$ V.

^d This value can be measured by a method involving a recurrent waveform such that the Maximum Ratings of the tube will not be exceeded.

^e Under pulse-duration condition specified in Footnote h.

^f Designed to mate with connector of 0.250-inch cap, generally available from your local RCA distributor.

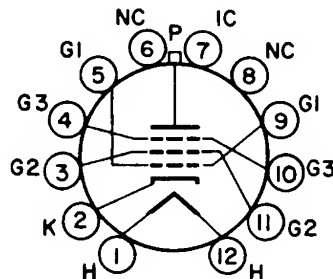
^g As defined in the current issue of EIA Standard RS-239, unless otherwise specified.

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- ^h This rating is applicable when the duration of the voltage pulse does not exceed 15% of one horizontal scanning cycle. In a 525-line, 30-frame system, 15% of one horizontal scanning cycle is 10 μ s.
- ^k Absolute-Maximum Value.
- ^m In horizontal-deflection-amplifier service, a positive voltage may be applied to grid No.3 to reduce interference from "snivets," which may occur in both vhf and uhf television receivers. A typical value for this voltage is 20 volts.
- ⁿ Measured with a DC meter.
- ^p An adequate bias resistor or other means is required to protect the tube in the absence of excitation.
- ^q This rating is applicable when measurement is made using a thermocouple attached to a 0.1-inch wide phosphor-bronze ring placed at the hottest location on the envelope. A maximum rating of 240°C is applicable to direct thermocouple measurements taken at the hottest point on the envelope surface.

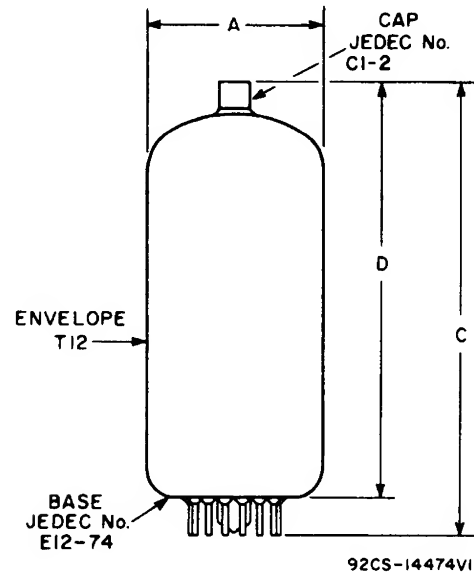
TERMINAL DIAGRAM (Bottom View)

- Pin 1 – Heater
Pin 2 – Cathode
Pin 3 – Grid No.2
Pin 4 – Grid No.3
Pin 5 – Grid No.1
Pin 6 – No Connection
Pin 7 – Do Not Use
Pin 8 – No Connection
Pin 9 – Grid No.1
Pin 10 – Grid No.3
Pin 11 – Grid No.2
Pin 12 – Heater
Cap – Plate



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DIMENSIONAL OUTLINE (JEDEC No.12-118)



DIMENSION	INCHES		MILLIMETERS	
	Min.	Max.	Min.	Max.
A	1.437*	1.563	36.5*	39.7
C	—	4.625	—	117.47
D	—	4.250	—	107.95
MILLIMETER DIMENSION DERIVED FROM INCH DIMENSION				
* Applies to the minimum diameter except in the area of the seal.				